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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,125

06/04/2007

Andre Schlienger

10139/04302

4059

76960

7590

03/05/2012

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EXAMINER

COTRONEO, STEVEN J

ART UNIT

PAPER NUMBER

3733

MAIL DATE

DELIVERY MODE

03/05/2012

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/590,125  
Filing Date: June 04, 2007  
Appellant(s): SCHLIENGER ET AL.

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Oleg Kaplun  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/6/2011 appealing from the Office action mailed 7/13/2011.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 12-24 are rejected

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

5,766,174	Perry	9-1995
5,041,115	Frigg et al.	5-1990
6,270,499	Leu et al.	8-2001
WO00/06039	Buhren et al.	2-2000

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry (US 5,766,174) in view of Frigg et al. (US 5,041,115) and in view of Buhren et al (WO 00/06039 see US 6,547,791 for English translation) further in view of Leu et al. (US 6,270,499).

Perry discloses an intramedullary nail comprising: an elongated nail body having a proximal end, a distal end for insertion into the medullary canal, a central axis and a total length L; a proximal locking section (fig 4, 32), distal locking section (fig 4, 36), and isthmus locking section (fig 4,34) spaced along the length of the nail body, the proximal locking section nearest the proximal end, the distal locking section nearest the distal end, and the isthmus locking section located between the proximal and distal locking sections, and each locking section including a through- hole for receiving a locking screw; a first intermediate section (see fig 4 below) separating the proximal and isthmus locking sections, and a second intermediate section (see fig 4 below) separating the isthmus and distal locking sections, each intermediate sections having fewer through-holes per unit length than the locking sections. The intermediate section has no through holes (fig 1).

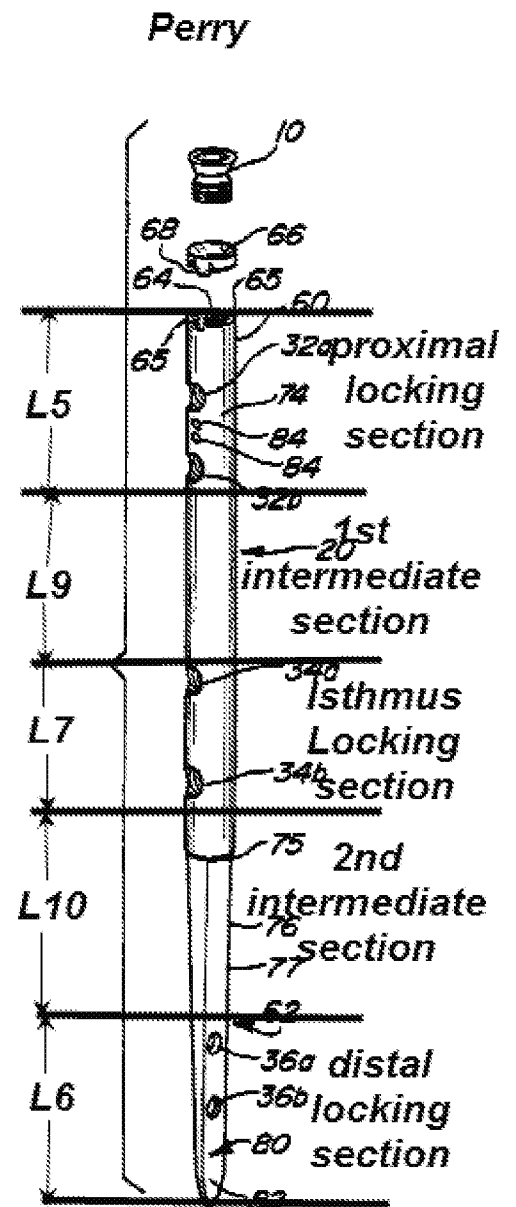
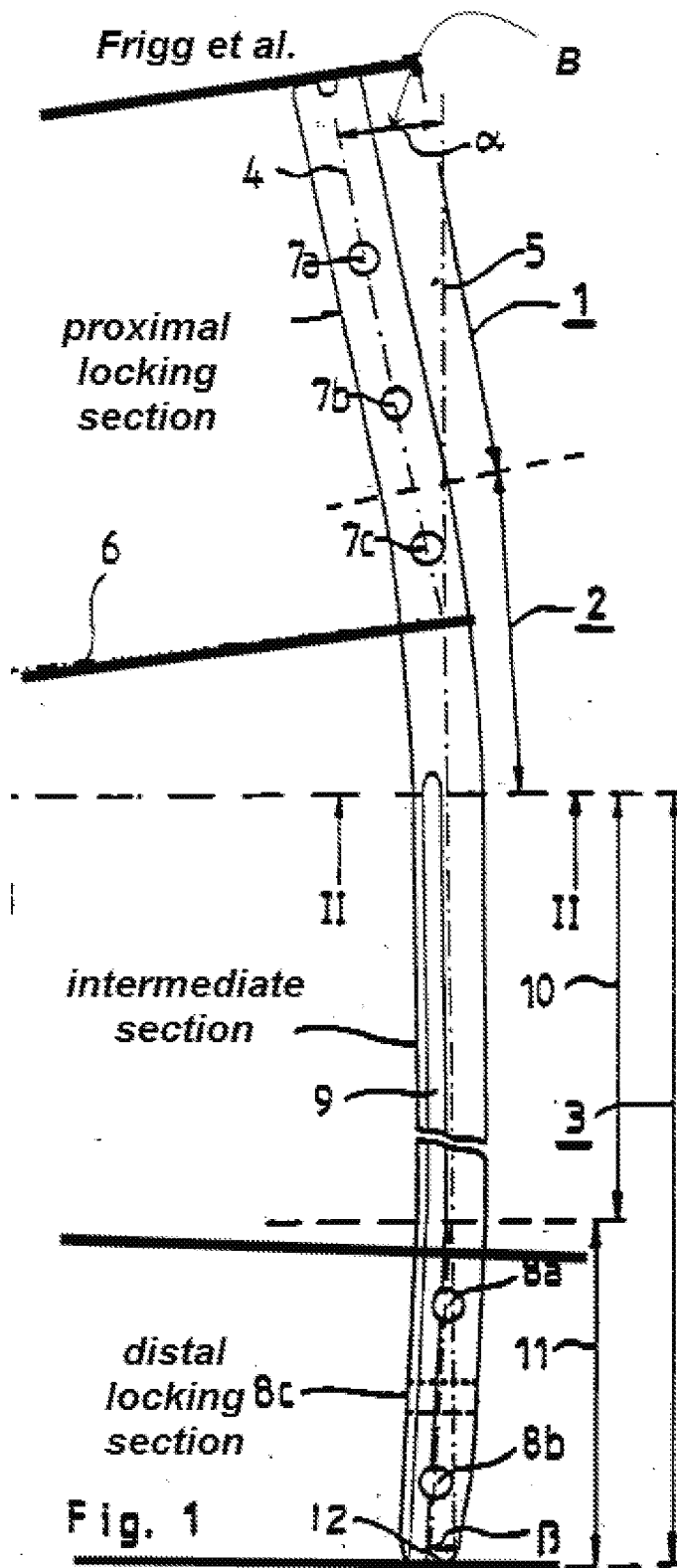
Perry does not disclose wherein the proximal locking section forms an angle B with the intermediate section, where B is in the range of  $7^{\circ} < B < 13^{\circ}$  and does not disclose the proximal locking section comprising an elongated through hole.

Frigg et al. a proximal locking section forms an angle B with the intermediate section (see fig 1 below), where B is in the range of  $7^{\circ} < B < 13^{\circ}$  (col. 4 ll. 40-42, "8 to about 18 degrees") to allow for use in the tibia (abstract).

Buhren et al. discloses a proximal locking section comprising an elongated hole (fig 1, 32) to allow for the use of dynamic or compression locking bolts (US version col. 2 ll. 58-59)

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It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the device of Perry with the proximal locking section forming an angle B with the intermediate section, where B is in the range of  $7^{\circ} < B < 13^{\circ}$  in view of Frigg et al. in order to allow for use in the tibia and it would have been obvious at the time of the invention to one of ordinary skill in the art to modify the device of Perry with the proximal locking section comprising an elongated hole in view of Buhren et al. in order to allow for the use of dynamic or compression locking bolts.



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As to claims 14 to 19, Perry in view of Frigg et al. and in view of Buhren discloses the claimed invention except for L5 is between .22L and .28L; L6 is between .18L and .22L; L7 is between .08L and .15L; L9 is between .27L and .33L; L10 is between .13L and .30L; and L10 plus L6 is between .32L and .5L. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device with L5 is between .22L and .28L; L6 is between .18L and .22L; L7 is between .08L and .15L; L9 is between .27L and .33L; L10 is between .13L and .30L; and L10 plus L6 is between .32L and .5L, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

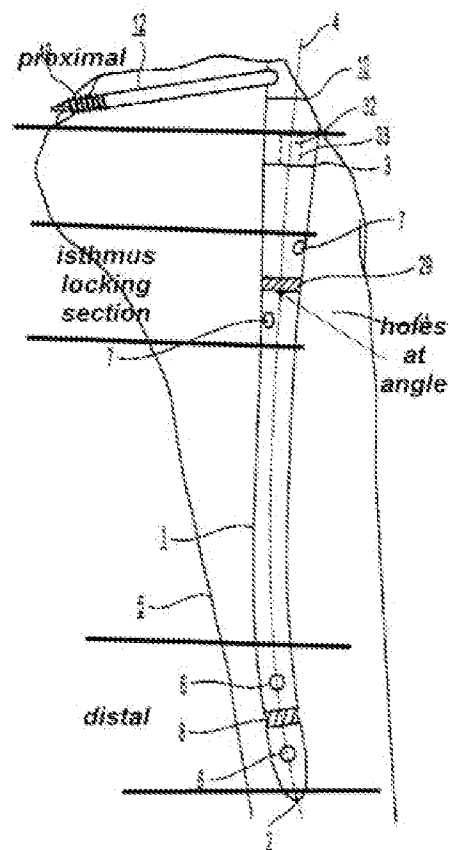
Perry in view of Frigg et al. and in view of Buhren et al. discloses the claimed invention except for the isthmus locking section includes two through holes arranged at a relative angle A.

Leu et al. discloses the isthmus locking section includes two through holes arranged at a relative angle A (see fig 1 below) to allow accurate positioning of the intramedullary nail in the intramedullary space (col. 3, ll. 60-63).

It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the device of Perry in view of Frigg et al. and in view of Buhren et al. with the isthmus locking section includes two through holes arranged at a relative angle in view of Leu et al. in order to allow accurate positioning of the intramedullary nail in the intramedullary space.



Perry in view of Frigg et al. and in view of Buhren et al. in view of Leu et al. discloses the claimed invention except for the relative angle being 90 degrees. The angle between Leu et al. through holes 7 is not disclosed in the specification but appear to be around 90 degrees. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the relative angle being 90 degrees, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).



*Fig. 1*

**(10) Response to Argument**

The applicant argues the rejection in view of Leu et al. The applicant argues that bores 7 of Leu et al. are not in the isthmus portion of the Leu et al. nail. The examiner respectfully disagrees. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Leu et al. is used to modify the medial holes of Perry. Perry's medial holes are clearly in the isthmus of the Perry hole. The two sets of holes are analogous because they both lie in the middle of their respective nail body. Modifying Perry to include angled holes is taught by Leu et al. as to make it possible to position the nail better in bone (col. 3, ll. 60-63).

The applicant also argues it would not be obvious to make the holes in the isthmus to be at ninety degrees from each other. The examiner respectfully disagrees. Leu et al. teaches a non-parallel relationship between the locking holes 7 that appears to be close to 90 degrees. It would also be obvious to one of ordinary skill in the art to achieve a 90 degree hole arrangement by trial and error to find the best arrangement for increasing the precision of positioning the nail in the bone. The applicant does not state a particular reasoning for the holes to be arranged at ninety degrees and states in the specification that the angle can be between 60 and 120 degrees (paragraph 3 on page 3 of the specification).

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The applicant also argues that there is no reasonable expectation of success by modifying Perry with Leu et al. stating that Perry needs parallel holes to allow for easy insertion on bone fasteners using an insertion device. The examiner respectfully disagrees. Not all of the holes of Perry are aligned parallel to each other. Perry shows holes 36 in figure 4 that are aligned at a 90 degree angle from the rest of the holes. Perry goes on to state in the specification (col. 4, ll. 31-40) that holes at a 90 degree angle are readily targeted through the use of a C- arm. So it would be reasonable to modify the holes of the isthmus section also to be at a readily targeted 90 degree angle for the added benefit of better positioning the nail as taught by Leu et al.

The rejections are deemed proper.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/STEVEN J COTRONEO/

Examiner, Art Unit 3733

Conferees:

/EDUARDO C. ROBERT/

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Supervisory Patent Examiner, Art Unit 3776